



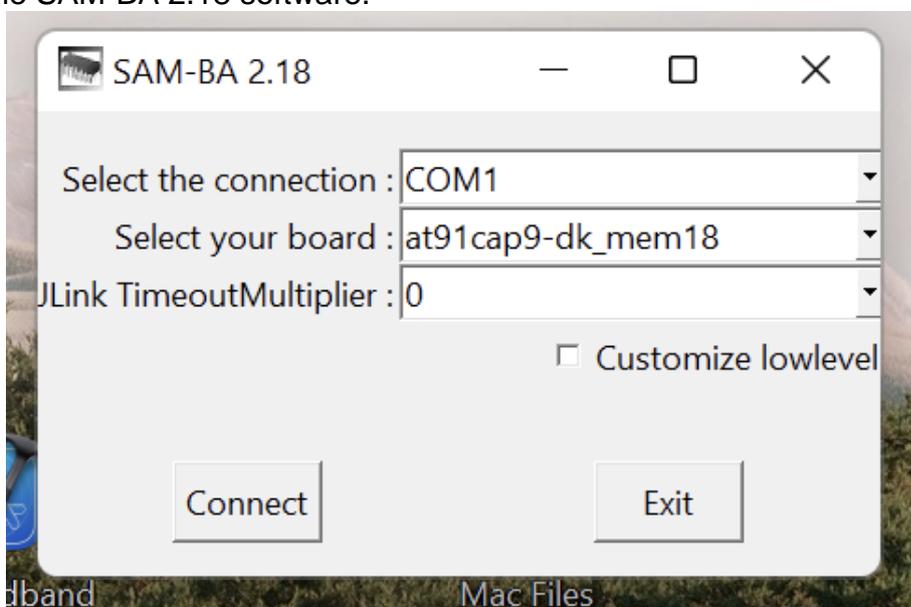
Installing Firmware

Warning: The firmware in your calculator is copyrighted. It's forbidden to trade or exchange this firmware.

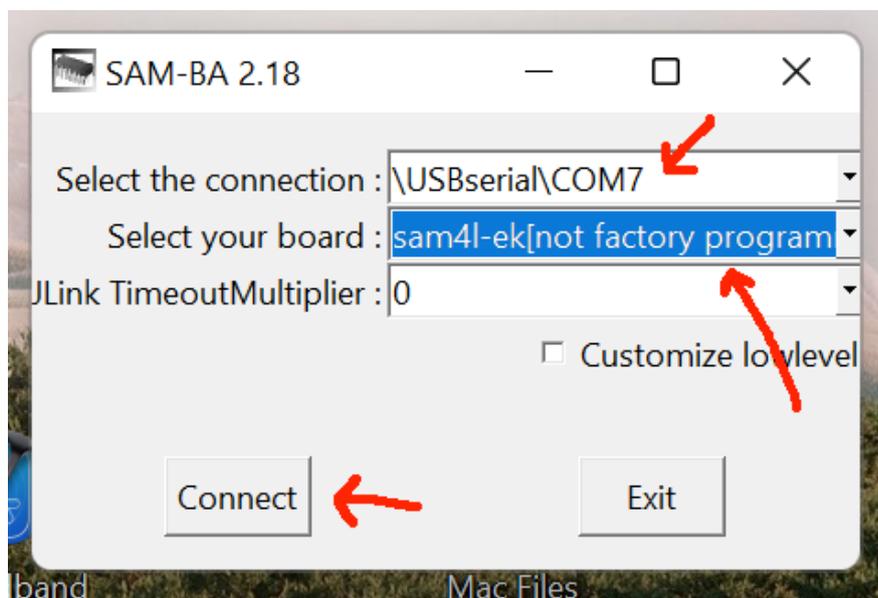
- Let's assume that you have already installed SAM-BA 2.18 software and properly connected your calculator to Windows, so that it appears in the Device Manager. If not, please read the "How to Use the Programming Cable" guide.

Steps:

1. Start the SAM-BA 2.18 software.

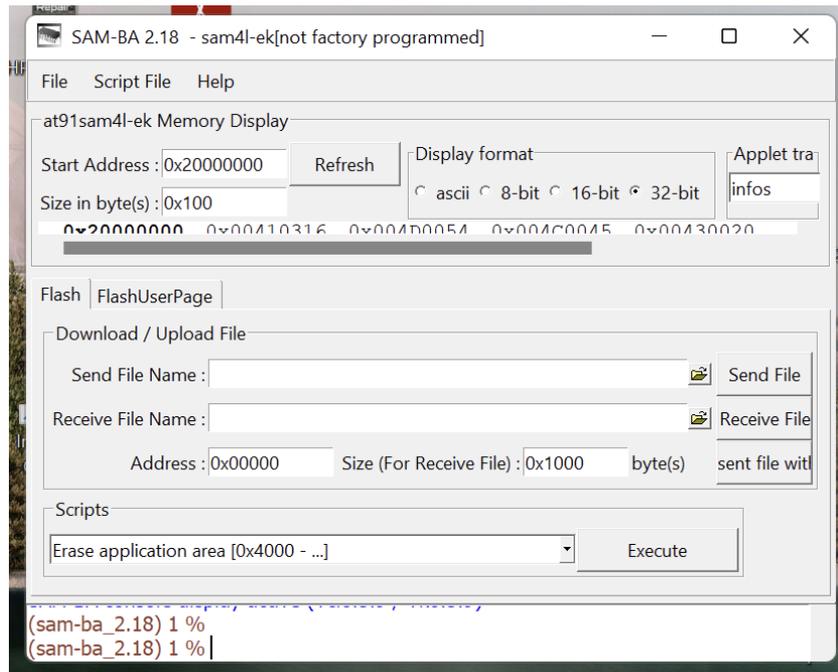


2. Choose the serial port that you see in the device manager.
3. Choose the model to be programmed: sam4l-ek [not factory programmed].

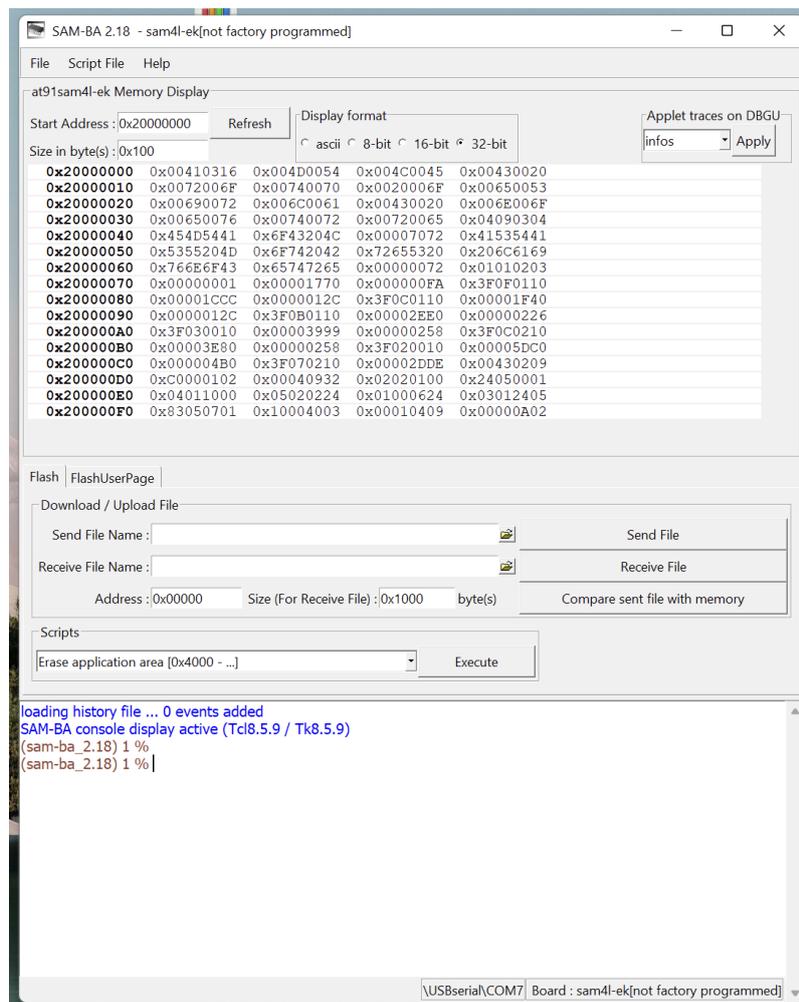




4. Press "Connect". You should see the screen below:



5. Enlarge the screen so that you can see all the fields:





- Click the folder icon to the right of the "Send File Name" field and browse to select your firmware file. The filename usually ends with .bin.
- Put "0x04000" in the "Address" field, to place the pointer at the start of the user firmware and after the booting firmware of the Atmel processor. This is required to avoid overwriting the bootloader firmware at the beginning of the Atmel memory space.
- Click on "Send File" button.

The screenshot shows the SAM-BA 2.18 software interface for a sam4l-ek board. The main window is titled "at91sam4l-ek Memory Display". It features a "Start Address" field set to 0x20000000, a "Size in byte(s)" field set to 0x100, and a "Display format" dropdown set to 32-bit. Below these fields is a table of memory addresses and their corresponding values.

0x20000000	0x00410316	0x004D0054	0x004C0045	0x00430020
0x20000010	0x0072006F	0x00740070	0x0020006F	0x00650053
0x20000020	0x00690072	0x006C0061	0x00430020	0x006E006F
0x20000030	0x00650076	0x00740072	0x00720065	0x04090304
0x20000040	0x454D5441	0x6F43204C	0x00007072	0x41535441
0x20000050	0x5355204D	0x6F742042	0x72655320	0x206C6169
0x20000060	0x766E6F43	0x65747265	0x00000072	0x01010203
0x20000070	0x00000001	0x00001770	0x000000FA	0x3F0F0110
0x20000080	0x00001CCC	0x0000012C	0x3F0C0110	0x00001F40
0x20000090	0x0000012C	0x3F0B0110	0x00002EE0	0x00000226
0x200000A0	0x3F030010	0x00003999	0x00000258	0x3F0C0210
0x200000B0	0x00003E80	0x00000258	0x3F020010	0x00005DC0
0x200000C0	0x000004B0	0x3F070210	0x00002DDE	0x00430209
0x200000D0	0xC0000102	0x00040932	0x02020100	0x24050001
0x200000E0	0x04011000	0x05020224	0x01000624	0x03012405
0x200000F0	0x83050701	0x10004003	0x00010409	0x00000A02

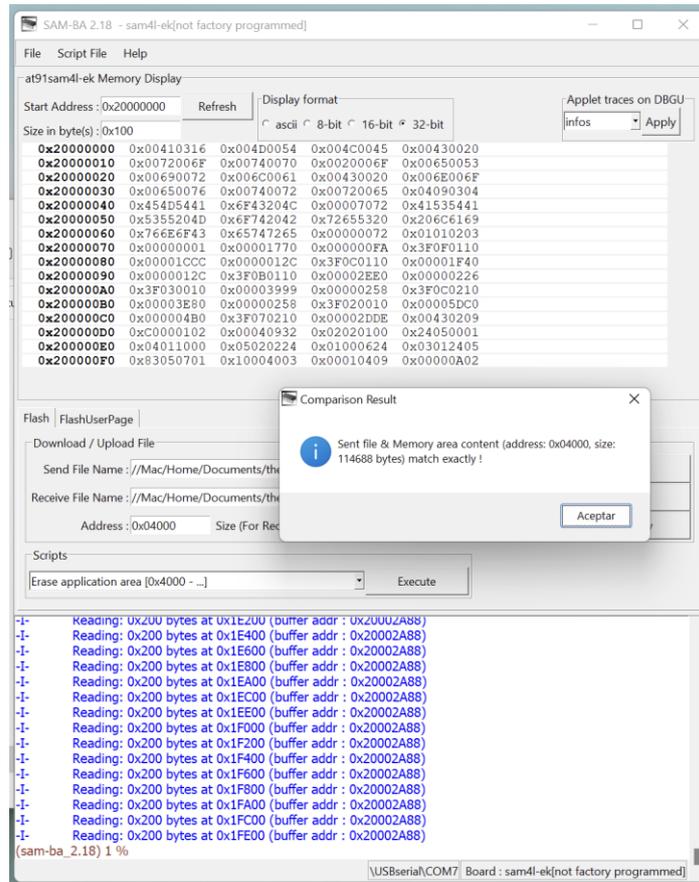
Below the memory display, there are sections for "Flash" and "FlashUserPage". The "Download / Upload File" section includes fields for "Send File Name" (set to //Mac/Home/Documents/thecalculatorstore/A Proyecto HP), "Receive File Name" (set to //Mac/Home/Documents/thecalculatorstore/A Proyecto HP), "Address" (set to 0x04000), and "Size (For Receive File)" (set to 0x1000 byte(s)). There are buttons for "Send File", "Receive File", and "Compare sent file with memory".

The "Scripts" section has a dropdown menu set to "Erase application area [0x4000 - ...]" and an "Execute" button.

The bottom of the window shows a log of operations: "-I- Reading: 0x200 bytes at 0x1E200 (buffer addr : 0x20002A88)" repeated for various addresses up to 0x1FE00. The status bar at the bottom indicates the board is "sam4l-ek[not factory programmed]" and the connection is via "\USBserial\COM7".



9. Check that the memory content is equal to the file you have sent by pressing "Compare sent file with memory". You should see the result below:



10. Press "RESET" button on the cable (You can also poke a paperclip into the RESET hole in the back of the calculator).

11. Press "ON" on your calculator.

12. "pr error" appears on the screen. Your user memory has been cleared.

13. Press any key to start using the calculator. "0.0000" appears on the screen.

- To make sure the process was successful, you can check the firmware checksum in your calculator. To do so, switch the calculator off, and, while pressing "g+ENTER", press "ON". You get to a menu: " 1.L 2.C 3.H ". Press "2" to get to the checksum. See the hexadecimal number below:

- The original firmware that came with the HP15c had a checksum "9090h"
- The new firmware has a checksum "0A0Ah"